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ABSTRACT

This speech emphasizes Florida's progress in school planning while exposing a number of their still unsolved educational planning problems. Among these problems are those of (1) pupil population analysis within the school district when considerations have to be made concerning whether to add to or remodel existing schools, or to construct new ones; (2) land use studies that will permit effective dealing with population mobility; and (3) administrative adeptness in scheduling techniques that will insure the best use of space. Alternative forms of space utilization such as open plan schools, community schools, and flexibility of design are suggested. The impact of bond issue failures on school building programs concludes the presentation. (MLF)

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SCHOOL FACILITIES CONFERENCE

# PROBLEMS IN SCHOOL PLANNING *

Dr. Charles E. Chick

It is indeed a pleasure to have an opportunity to talk with you about school facilities planning. I hope to challenge your thinking. If I challenge you sufficiently, arouse a feeling of discomfort and cause you to be a little defensive, then perhaps time spent together in this conference will be profitable to all.

In Florida, we have made a lot of progress in school plant planning. We have solved a lot of problems that numerous school districts in many states are still trying to solve. Let us not be content, however, to speak of only what we have been able to accomplish. Let us take a serious look at some of the problems that we have today.

PUPIL POPULATION

We live in a fluctuating society. Pupil population is one of the first problems that we must carefully analyze. We have no problem projecting statewide or district-wide pupil population increase or decrease for a period of five or six years if we assume that in-migration or out-migration trends will remain relatively static and stable. However, pupil analysis becomes really acute when we come to grips with the distribution of the pupil population projection within the school district; when we have to consider whether we should make additions to existing schools, remodel existing schools, construct new school plants, locate new school plants, plus many other factors.

Pupil mobility creates a real problem for the school planner. We had a total enrollment of 1,503,549 students in our schools in 1969-70.

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During the school year, 285,051 or 18.96 per cent of all students withdrew for numerous reasons: Students might have withdrawn to go to another school within the same school district; students may have moved out of the State; students simply may have dropped out of school for a period of time; and then even re-entered the same school. Although there was movement of pupils brought about by court orders during the middle of the year, an analysis of the overall movement on a ratio basis for the last seven, eight or nine years shows that the ratio of pupils to withdraw has remained relatively constant. After the beginning of the 1969-70 school year, 76,936 students moved into Florida. That's s lot of pupils to come in. Also, 35,508 students moved from one school district to another school district. In 1969-70, a little less than one-third of the total enrollment moved around.

In Florida, we have only begun to scratch the surface in analyzing pupil population in our attempt to start building some real experiences, either by some geographic method, census tracts, or some of the other techniques in the forefront now.

LAND USE

If Florida planners are to effectively deal with population mobility, we must have better studies of land use. Planners know that land use either attributes to or contributes directly to the pupil population in any general area. One must recognize further that regardless of how well land use factors are considered in planning, political implications often emerge and change even the best laid plans as far as the development of property may be concerned.

INTERAGENCY PLANNING

We need to develop a better relationship with other agencies of govennment and the private sector that are continously studying and making pupil and overall population projections.

One of the problems that we have is dealng with chambers of commerce. Invariably, our projections have been conservative. It is difficult to explain a conservative projection to a chamber of commerce.

PROPER USE OF SPACE-BUILDINGS

Utilization of school buildings is taking on an entirely new meaning, a new form, and new shape. How to use space and how to plan for the use of space is becoming more complex. New definitions are being given to the word, utilization. You are hearing the words community schools, year round operation of schools with the 45-15 plan, the four-quarter system, the quinmester plan, and the extended school year. Joint occupancy is being discussed. Let me give you a specific example. The concept of the community school brings forth a whole new realm of interest groups and services not previously considered important in school plant planning. Today we must consider cooperative planning with: housing authorities, parks departments, economic opportunity agencies, welfare agencies, code division of municipal building department, county and city planning department, senior citizen services, department of education, the vocational rehabilitation agencies, family and children services, public health department and employment agencies. Some of the services that would be provided separately or jointly, but on the same site and even under the same roof would be the activities for senior citizens, basic adult education programs, child day care centers, community action program, the distribution of government surplus food, the educable mentally retarded educational

program, employment, job training and counseling services, housing and home management services, housing code services, housing relocation services, legal aid and information on the rights of the poor, regular school program for some defined grade organization, municipal information services, pre-kindergarten program, recreation including swimming, sheltered workshops for the trainable mentally retarded individuals, vocational educational programs, vocational rehabilitation programs, volunteer community service programs, welfare case work services, and health services. The future holds great potential for cooperative planning. If problems of coordination and problems of management are to be dealt with properly, then we must get with it. If these types of activities become a function of a community school, we have an enormous amount of interagency cooperative planning to do. Such a school, The John F. Kennedy School, will open in southwest Atlanta during January, 1971. I advise you to keep your eye on this one.

Use of Open Plan

The open plan schools are bringing forth new patterns of utilization. The classroom in a conventional egg crate designed school with 30 square feet for each pupil and 30 pupils per teacher requires 900 square feet of space. In a 24 classroom school on the same basis, 21,600 square feet of instructional space will be required. However, if the pupil-teacher ratio is reduced to 25 to 1, then an excess of 2600 square feet will be provided if we are still to assume that 30 square feet is adequate. However, four additional teachers could be added to an open planned school simply by re-designating the space, thus utilizing the 3600 square feet. If we are to

consider cost, even for an elementary school, about seventy-two to seventy-five thousand dollars would be needed to just replace the four teacher stations generated by the reduction of the pupil-teacher ratio. So when we are under utilizing a building, we're talking about hard, cold cash which is becoming harder and harder to get.

An arbitrary 30 square feet per pupil raises a question about utilization. All of us in education are setting forth square footage requirements and assuming that this magic number is going to receive maximum utilization. Further, we assume that 30 square feet guarantees, for some reason, justification for capital outlay expenditures. The real problem is to justify the square footage that we proclaim to be necessary for carrying out an instructional program.

We continue to have a problem with establishing a rationale for determining pupil station utilization and teacher station utilization. Especially, this is true in the secondary schools. The various formulas which have been developed are not functional. These formulas are not reliable and do not provide consistent answers to the problem. We use an arbitrary scale for establishing a utilization capacity of school buildings. This is based on experience but very little else.

DESIGN

There is one problem created by the design profession. I may step on some toes when I say this, but really, how much time goes into the design of the school building to insure that the maximum space is going to be instructional space or service space for the function of that school center? Annually, we compare the square footage per pupil that each new building is supposed to accommodate with similar instructional programs. The comparison shows a wide range of square footage going into the construction of the

buildings. A legitimate question is: why should one building have less instructional space per pupil than another? Related is another problem. Many school boards are not providing enough incentive in monetary remuneration to sufficiently encourage the architect to produce schematics for evaluation before final decisions are made. Once lines are drawn, it is a problem to get an architect to change a line. It is not his fault. He is on a budget. He has to produce. Time costs him money. The architect is not directly responsible for this situation. The responsibility belongs to those in education who are not providing the monetary incentive that would give the architect the time to come up with quality schemas showing alternative solutions to educational building problems.

ADMINISTRATION

There is a lack of knowledgeable administrators who are adept in using scheduling techniques to insure the best use of space. The Department of Education gets many requests from school districts desiring help in determining if the principal is really scheduling the facilities for maximum utilization. A specific example of this problem follows. I went into two schools and made a study of the pupil and teacher station utilization. These schools were achieving only about 72 per cent use of their space. The principals had told the superintendents they must have more classrooms to enable them to add additional teachers. When the schedule was analyzed, it was found that during the first period every morning all classrooms in the buildings were being utilized except the gymnasium. After the first period, there was the equivalent of three or four classrooms per period not being used throughout the day. The question was raised, "Why don't you have physical education the first period every morning?" The answer was, "We just never have done it before."

LAG IN CONSTRUCTION

Today, many districts cannot or are not constructing buildings fast enough to meet the housing needs of the school population. Consequently, many problems are occurring. We see the extended day, double sessions, the overlapping use of classrooms, and the preponderance of portables continually being placed on permanent school sites. How does this really affect the educational opportunity of students when spaces such as libraries, lunchrooms, shower and locker rooms, administrative space, facilities that require special design and equipment for an instructional program are overcrowded? We even have the problem of a student having no locker or space in which he can place his books. And we talk about student unrest. Have you ever tried to carry your books around in your arms all day?

CHANGE

Change is coming about at an accelerated rate. This in itself is causing difficulty in planning and determing the location of schools, space design, and utliization.

PLANNING PROCESS

Planning is an ongoing, continuing process. In a growing state with a shifting population such as we have, there is no starting and no stopping point in the planning process. The problem is that for some reason many educators don't operate that way. I can't understand it. We operate the planning process as if there's a starting and a stopping point.

STATE DEPARTMENT SERVICES

Surveys

The Florida Department of Education has provided some fairly adequate services to school districts throughout the years. With the enactment of the Minimum Foundation Program Law in 1947, a survey program was implemented. Most educators and architects are cognizant of this continuing operation. The state survey program has strengths and weaknesses. We are

eagerly working to eliminate some of the weaknesses caused by population growth, inflationary factors, and an ever-changing educational program.

Architectural Review

The Florida Department of Education has continued to provide for a number of years an architectural review service. Some laugh when I say service since review is mandatory. Hopefully, the review is a service. I feel that it is a service for one state agency to review all plans rather than having to meet various local codes. If plans were required to be submitted to several state agencies as well as local review agencies, we would have a real problem. The problem in this review area is that other agencies want to be the final approving authority. We must work together to keep review in one agency only - the education agency.

Educational Specifications

In 1962, and even before, the Florida Department of Education began a program of providing assistance to counties to develop educational specifications for use in designing school buildings. Although the service has slowly but progressively been expanded and improved as counties continue to develop better educational specifications, the quality and quantity are still inadequate. In the past, the problem was that architects were given instructions to design "X" school to house "X" number of students. The architect had to spend his time and energies trying to determine what the client needed and wanted, or he may have perpetuated his concept of an educational program. Today, this problem can be eliminated by developing a quality set of educational specifications for each school we build and by taking time to evaluate the buildings once they go into operation.

One of the biggest problems we have with educational specifications is the educator. The educator uses a capricious language when speaking about curriculum and curriculum development. The language is difficult to understand. If any of you have ever had to deal with a group of curriculum specialists in trying to resolve this problem, you know what I am talking about.

PUPIL NEEDS

Local systems do not identify educational programs in order to relate programs effectively to space requirements. Local systems do not analyze actual pupil needs and community needs before establishing program offerings. More and more students are going into some type of business activity, yet we have school districts continuing to provide one or two typing rooms, one business machines room, and one class for shorthand although 55 to 60 per cent of the student body is involved in some type of program in business education.

FLEXIBILITY

Since flexibility in new schools is very high on the want list, the arrangement and the rearrangement of dividers in these buildings can present a number of hazards to the occupant. This is a problem at present.

EXPANSION

Are we designing school buildings for expansion? This is one of the biggest considerations when we think about changing our utilization of space. If we use permanent walls and at a later date we must expand the library, the administrative suite, the lunchroom, the shower and locker room space we have a problem. How many of you have stopped to analyze a set of plans in terms of a probable increase in enrollment from 900 to 1200 or 1500 or 2000.

LONG-RANGE PLANNING

Another problem is that school districts are not developing a really adequate long-range building plan including an adequate capital outlay budget. The school systems continue a proclivity for pawning capital outlay expenditures on a year-by-year basis. While we are developing a method of fast tracking to produce a building faster, we observe a failure of school districts to make decisions necessary to make fast tracking possible. For example, what good is a fast track method for construction if the decision is not made about where the school is going to be located or if condemnations and the court procedures in obtaining a site are not done in advance?

BOND ISSUES

More and more bond issues are failing. This is a problem. Something that really bugs me is happening over and over and over again in Florida. A school district will make a really concerted effort to sell a bond issue. The picture is painted of how desperately capital outlay dollars are needed. Voters register a negative vote. After the defeat of that bond issue, educators do everything possible to keep the things they had predicted were going to happen from happening in case the bond issue was defeated. This simply delays a satisfactory solution to meeting capital outlay needs.

COST

Let's look at costs in Florida during the last four years. We are naturally concerned about cost, yet we hear that costs from $60 to $65 a square foot is not uncommon in the northeast. Because costs continue to rise, getting funds for construction is a problem.

In 1966-67, the average cost of a new elementary school building was $14.86 a square foot, for secondary schools the average cost was $16.53 a square foot. The elementary school cost has gone from $14.86 to $20.39 which represents a 37.21 per cent increase per square foot. In the secondary schools, the cost has gone from $16.53 to $23.08 or a 39.62 per cent

increase in four years.

MAINTENANCE AND OPERATIONS

Although it is directly related to overall school planning, we continuously have problems in Florida in maintenance and operation. We observe a failure on the part of some school administrators and some boards to recognize the problem involved in satisfying their legally imposed responsibility for the preservation of the investment that is made in school buildings. We have a very definite lack of board policy to provide positive direction to school plant management programs to maintain our buildings.

Inadequate financing for maintenance programs, the lack of uniform budgeting practices, and deviations of the allocated funds during the school year present maintenance problems. When the budget is prepared, the last item going into the budget is money for maintenance. The first item that comes out when cutting the budget is the money for maintenance. If districts run short of funds in other areas during the school year and there is a need for additional money, it comes from the maintenance budget. Why? Because we can always put off until tomorrow that which we can put off indefinitely.

Another serious problem in Florida is inadequate training of school plant management personnel, administrators, supervisory personnel, and even the school personnel responsible for making decisions to insure a first rate or first class school plant planning and operations program.

ECONOMY UTILITY COSTS

We continue to find a lack of effort to effect economies in utilities. If you don't think this is becoming a real cost factor, just take a look at it. We are still failing to use and to utilize fully the specifications and the testing facilities available to

school baords as far as products are concerned.

LOCAL CODES

There are other problems that I will touch on briefly.

- The Civil Defense people want fallout shelters designed in every school building, yet no one has come forth with the additional dollars that would be required.
- Some individuals want public buildings, including each school building, to be designed for the physically handicapped. Although providing for the handicapped is highly desirable, perhaps it is not needed in each building. Imagine the increase in construction costs of our buildings if we had to design each one to accommodate the physically handicapped.
- Health authorities are continuing to make mandatory requirements.
- The municipal governments want to take over the regulation of the codes, the standards, the review of plans and specifications to see that local codes are met. If this should occur, the larger school districts with many municipalities would find the bureaucracy almost unbearable.
- The Federal courts, by their orders, have set priorities definitely affecting our capital outlay dollar.
- We need to provide good supervision for the development of specifications for furniture.
- The law of this State requires the lowest and best bid. In most instances, that means the cheapest. There is really no excuse for something cheap in quality if one has good specifications.

IN CLOSING

Although there are many problems in school planning, we are beginning to make a dent in our effort to achieve a high degree of excellence in school facilities planning. Educational Facilities

Laboratories recognized the need to put forth the money necessary to start Dr. John Gilliland in the Facilities Laboratory at the University of Tennessee and Dr. James McConnell at Stanford in California. Dr. Gilliland's presence now at the University of Florida is an indication of the recognition that is being given by the administration in the University of Florida to improving the competence of personnel who are assuming leadership roles in school plant planning in Florida.